California Postsecondary Education Commission

# Commission Review of New Academic and Vocational Programs Proposed by the Public Higher Education Systems, 2004-2005

June 2005

*This report summarizes the results of program reviews conducted by the Commission during the reporting period 2004-05.*

*Also included is a new section on major issues and implications, in which the Commission (1) discusses a model for enhancing the evaluation of joint doctoral program in educational leadership; and (2) summarizes key issues regarding SB 724 (Scott) that would authorize the California State University to award an independent doctorate degree in a limited number of selected fields.*

## Contents


*Report Background* ..... *1*
*Major Issues* ..... *2*
*Program Review Summaries* ..... *5*
*Joint Doctorates* ..... *10*
*Appendices* ..... *11*


*The Commission advises the Governor and Legislature on higher education policy and fiscal issues. Its primary focus is to ensure that the state's educational resources are used effectively to provide Californians with postsecondary education opportunities. More information about the Commission is available at www.cpec.ca.gov.*


Commission Report 05-07


## Report background

The California Postsecondary Education Commission is statutorily responsible for reviewing and commenting on the need for new degree and certificate programs proposed by the public higher education systems. The review process is intended to (1) safeguard the state against inefficiencies in the allocation of program resources, (2) help ensure that new programs will meet student and societal needs, and (3) ensure that programs are well conceived and that they will have desired educational and social consequences.

Recent enhancements to the Commission's review process include greater emphasis placed on the long-range plans of the systems so that staff can consider prospective programs five years in advance of implementation. This has enabled the Commission to alert the systems of potential planning concerns early in the review process before formal proposals are submitted.

The guidelines used by Commission staff in reviewing new undergraduate and graduate programs are presented in Appendix A. They include the following seven criteria:

- Student Demand
- Societal Needs
- Appropriateness to the Institutional and System Mission
- Number of Existing and Proposed Programs in the Field
- Total Costs of the Program
- Maintenance and Improvement of Quality
- Advancement of Knowledge

To maintain maximum efficiency in the Commission's review process, the California State University is not required to submit proposals for new academic programs if certain criteria are met, including the following three important considerations:

- Either the campus will not have to acquire significant resources for the program to reach a cost-effective level of operation, or there is demonstrated capacity to fund the program on a self- support basis.
- The program has been subject to a thorough campus and system review and approval process.
- The program can be housed adequately without a major capital outlay project.

Also by agreement, the University of California is only required to submit proposals for new graduate programs and proposals for joint graduate programs with the California State University. Commission reviews might include, for example, an in depth examination of the need for a costly medical school or law program, or a comprehensive review of the need for a joint doctoral program with the State University to enhance educational leadership in school districts located in a particular region of the state.

## Major program review issues and policy implications

This section discusses two major program review issues that have public policy implications important to the California Legislature: (1) proposed evaluation practices for joint doctoral programs in educational leadership involving the University of California and the California State University, and (2) SB 724 that would authorize the California State University to award doctoral degrees in selected fields independent of the University of California.

### Issues regarding the evaluation of joint doctoral programs in educational leadership

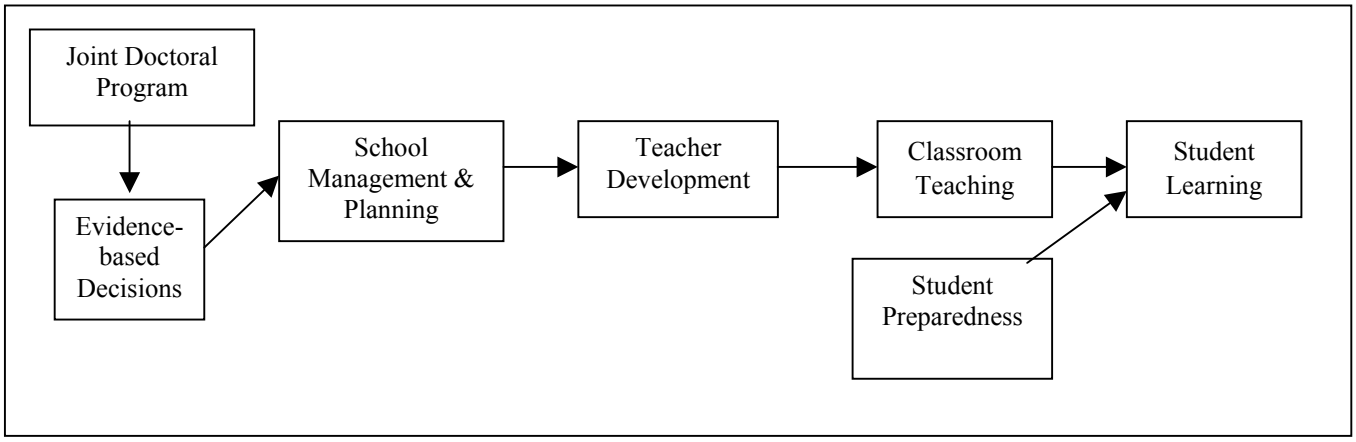
Last year's annual report, *Commission Review of New Academic Programs Proposed by the Public Higher Education Systems, 2002 to 2004* (CPEC Report 04-08), noted that although most UC graduate programs have a statewide and national focus, joint educational doctoral programs are developed to address specific regional needs. In considering *regional need*, the Commission has sought to relate the myriad challenges facing public schools in a geographic region to the particular aims and purposes of a proposed regional doctoral program. This had been a difficult task because previous proposals have included little empirical information describing the challenges facing local school districts that might be positively impacted by administrators with a doctoral degree.

To address this situation Commission staff met early this year and reached agreement with program review administrators of the State University and the University that will require all joint doctoral proposals henceforth to include: (1) major findings from a relevant *Needs Assessment Study* and a description of how regional needs are reflected in program goals; and (2) a detailed description of the evaluative tools and procedures that could be used to gauge, at an appropriate time in the future, the extent to which the leadership program is influencing school improvements. As a result of this agreement, the needs assessment information that has accompanied more recent proposals has been very helpful to the Commission in considering the merit of potential joint doctoral programs. However, the evaluative information, though promising, still needs to be more focused and directed towards detecting improvements in student learning as a partial consequence of the doctoral program. The term, *partial*, is included to emphasize the realization that many factors influence student learning, and that if there is a discernable program effect, it almost certainly would be an indirect effect.

The *path analysis* diagram shown in Display 1 is presented here as an illustrative example. Notice that classroom teaching and student preparedness are the only factors shown to have a direct influence on

student learning. That is, the arrows from those two factors connect directly to student learning. In this example, the joint doctoral program is intended, among other outcomes, to significantly enhance the leadership and decision-making skills of school administrators by providing them a critical and practical understanding of a planning tool called *evidence-based decision-making*. Evidence-based decision-making is hypothesized to lead to improved school management practices, which in turn leads to enhanced teacher development opportunities, and so on. If all the mediator factors were positively impacted, then learning would be expected to improve.

*DISPLAY 1 Hypothetical Path Analysis Depicting the Indirect Effect of a Joint Doctoral Program on Student Learning*




The Commission believes that a *path analysis* approach, such as the one depicted in Display 1, could serve three vital purposes with respect to program review. First and foremost, it would help program developers to think in a more exacting manner about the path by which a joint doctoral program in educational leadership is to influence learning. Second, the *path analysis* is likely to help program developers be more attentive to key mediators that are tied to both the program and the terminal outcome of enhanced student learning. Third, the diagram should help developers decide at what critical points along the path assessments should be undertaken. From Display 1, it seems quite obvious that the State would want to know at a minimum if the practice of evidence-based decision-making is enhancing the practice of school management and planning.

Given the advantages just mentioned, and given that evaluation procedures for joint doctoral programs are just now being developed, the Commission intends to consult with the higher education segments about requesting joint leadership programs to submit a *path analysis* and narrative for review and comment by Commission staff.

## Issues regarding SB 724 (Scott)

SB 724 (Scott, 2005) would authorize the California State system to award doctoral degrees in selected professional fields independent of the University of California. Since the early 1970s, the Commission has issued a number of reports regarding graduate education and the joint doctorate between the CSU and UC. Those reports include: *Report on Joint Doctoral Programs (1980); Shortening Time to the Doctoral Degree (1990); California's Joint Doctoral Programs (1992); Planning for a New Faculty: Issues for the Twenty-First Century (1990); and The Doctorate in Education: Issues of Supply and Demand in California (1998).* This section provides an historical context for the bill and summarizes some of the key issues and policy implications regarding the joint doctorate.

Prior to 1960, when California's Master Plan for Higher Education was adopted nearly a half century ago, the State University System did not exists as we know it today. There were 13 instead of 23 campuses, and all were governed by the State Board of Education. Although some campuses, such as the San Diego State College, were fully developed to their statutory limits, others, such as the new campus in Hayward, now named CSU East Bay, had scarcely begun operations. Enabling legislation for the Master Plan, known as the *Donahoe Higher Education Act,* created among other things, a junior college system that would be governed by locally-elected boards and a state college system that would be governed by a corporate body know as the Trustees of the State College System of California.

With respect to doctoral instruction, the state's Master Plan gave the University of California responsibility for awarding doctorates in all fields, including sole responsibility for graduate instruction in chemistry, dentistry, law, medicine, veterinary medicine, and architecture. The State University was limited to awarding the doctorate jointly with the University of California in selected professional areas and jointly with independent institutions, provided that the proposed doctoral program was approved by the California Postsecondary Education Commission.

Now, some 45 years later, the state college system has evolved into the nation's largest state university system and consists of 23 regional campuses that served approximately 400,000 students in Fall 2004 through program offerings in over 200 academic disciplines and fields. Given the development of the State University and a perceived need for increased access to doctoral education, particularly among working adults, many educators and public officials are calling for an amendment to California's Master Plan that would allow the State University to award an independent doctorate in selected professional fields.

SB 724 contains a number of limiting provisions, including the following:

- Prohibits the CSU from awarding the doctor of philosophy degree, unless awarded jointly with UC or an independent higher education institution, subject to *review* by CPEC in the case of UC and *approval*, in the case of joint doctorate with an independent institution.
- Retains existing law that prohibits CSU from offering graduate instruction in law, medicine, dentistry, or veterinary medicine.
- Requires CSU Trustees to be attentive to the following considerations when reviewing proposals for new doctoral programs: (a) need in the relevant professional field, (b) professional standards, accreditation and licensure requirements, and (c) systemwide and statewide resources, including faculty expertise.

Those in opposition to SB 724 include the University of California and the Association of Independent California Colleges and Universities. The University of California asserts quite strongly that its current level of doctoral degree production, coupled with anticipated future joint degree production with the CSU and degree production of California's independent colleges and universities, will meet most of the states economic and societal needs. In areas where some planners feel there are unmet needs, such as in the fields of Audiology and Physical Therapy, the University has stated that it is committed to expanding joint doctoral programs with the CSU.

University of California officials believe that joint doctoral programs are a good model for the state to invest in because such programs bring together the strengths of both systems. UC also believes that a joint approach makes better use of scarce state resources. Doctoral training can be costly because high quality programs require low student-faculty ratios, direct supervision of graduate students, laboratory equipment, library resources, and specialized training. In November 2001, the CSU and UC reached agreement to establish new doctoral programs in Educational Leadership (Ed.D.) to help meet a per-

ceived need for skilled leaders in K-12 schools and the community colleges. The legislature passed Senate Concurrent Resolution 93 (Res. Ch. 157) in 2002 supporting the development of such programs.

The Commission's consistent message over the past 30 years has been that until the cost-effectiveness of joint doctoral programs, including those in educational leadership, is carefully examined and the need assessed in greater depth, it will be difficult to state with any degree of empirical certainty their value to the State. Over the next two months, Commission analysts intend to assess relevant reports and documents and hear and weigh testimonies from both the public and independent higher education systems in order to make informed recommendations regarding SB 724.

# Program review summaries by system

### Introduction

This section summarizes the results of 24 independent reviews of new academic and vocational programs proposed by the systems during the reporting period, 2004-05. Of the total, 11 were submitted by the community colleges, nine were submitted by the University of California, and four were submitted jointly by the State University and the University of California. The totals exclude 15 CSU proposals that were submitted to the Commission for informational purposes only. Two of the UC proposals involved program name changes. The long-range plans of the State University and the University of California are also discussed.

Although each public higher education system in California has a unique mission and social purpose, the systems are united in a most common and fundamental way: each aims to enhance the intellectual, technical, and creative capacity of its student learners. Because advanced knowledge -- *scientific, technical*, and *procedural* -- tends to be organized by fields of study, and delivered to students through specific programs, the ultimate success and benefit of the state's higher education enterprise rest with the quality and breadth of institutional degree and certificate programs.

### California Community Colleges

California's Community College system is the largest system in the nation, serves approximately 1.7 million students, and awards about 90,000 degrees and certificates annually in over 320 academic and vocational programs. As the economic conditions of the state improve, the Commission forecasts that enrollment demand for this system will gradually climb to 2.3 million in year 2013. Factors that are presumed to influence increases in demand include: (a) growth in jobs for which the community colleges are a major provider of workforce training and preparation; (b) continued shift from industrial jobs to service-oriented jobs that will require education beyond high school; (c) the community college's expanded role in remedial education, and (d) strategic planning initiatives that are intended to improve transfer readiness, certificate and licensure completion rates, basic skills acquisition, and welfare to work transition.

During the reporting period, Commission staff reviewed and concurred with 11 proposals for new community college academic and occupational programs. As shown in Display 2, the first three instructional areas accounted for nearly two-third of the community college programs reviewed by Commission staff. The volume was in response to continued regional occupation and industry training needs in technology, computer information systems, and engineering. A complete listing of approved community college programs can be obtained at the following Web Site: www.cccco.edu/esed/webproginv/prod/invmenu.htm.

*DISPLAY 2 New Instructional Programs of the California Community Colleges, Year 2004-05*

| Instructional Area | Specific Programs within Instructional Area | Number | PCT |
|---|---|---|---|
| Bio Technology | Chemical Technology<br>Bioinformatics | 2 | 18.2 |
| Computer Information Systems | High Performance Computing<br>Network Administration and Security<br>Computer and Network Forensics | 3 | 27.3 |
| Engineering/Automotive | Mechanical Hydraulics/Pneumatics<br>Shipbuilding Technology<br>Agricultural Engineering | 3 | 27.3 |
| Nutrition/Food/Hospitality<br>Law/Legal<br>Agriculture | Food Science<br>Paralegal Studies (Distance Education)<br>Agricultural Systems Management | 1<br>1<br>1 | 9.1<br>9.1<br>9.1 |
| Total | | 11 | 100% |

## The California State University

Display 3 provides a summary of 21 master's and baccalaureate programs that the State University added over the reporting period. Fifteen of the proposals were submitted to the Commission solely for informational purposes. Having met each of the five criteria shown below, they were exempt from Commission review.

- The campus did not have to acquire significant resources for the program to reach a cost-effective level of operation, or there was demonstrated capacity to fund the program on a self-support basis.
- The program could be housed adequately without a major capital outlay project.
- The program is consistent with all existing state and federal laws and trustee policy.
- The program is a bachelor's or master's degree program.
- The program was reviewed thoroughly by the campus and CSU Chancellor's office.

*DISPLAY 3 Academic Programs Added by the California State University, Year 2004-05*

| | Degree Level | |
|---|---|---|
| Discipline Area | Bachelor's | Master's |
| Arts and Humanities | 5 | 2 |
| *Professional | 1 | 4 |
| Engineering & Computer Sciences | 3 | 2 |
| Social Science | 2 | 0 |
| Mathematics & Science | 1 | 0 |
| Biological Sciences | 1 | 0 |
| Total | 13 | 8 |

*Professional area includes business administration, psychology, and education.

## Long-range plans for the California State University

In March 2005, the CSU Board of Trustees granted planning authorization for 109 academic programs that its campuses seek to add between 2005 and 2010. Display 4 provides an overview of the discipline areas in which new programs are being proposed. Many will require Commission review. One change in the discipline area of "Professional" is the increase in proposals for new Ph.D. programs in addition to Ed.D. proposals. Other professional degree programs are proposed in business administration, public administration, public health, and social work.

The engineering and computer science area is the next largest area for expansion and includes proposed offerings in manufacturing systems and engineering, software engineering, civil engineering, electrical engineering, and computer engineering. Appendix B provides a complete list of all CSU programs anticipated between 2005 and 2010 and Appendix C highlights the proposed doctoral programs by degree title.

*DISPLAY 4 California State University Programs Planned through 2010, by Discipline Area and Degree Level*

| Discipline Area | Degree Level | | |
|---|---|---|---|
| | B.A./B.S. | Master's | Joint Doctorate |
| Professional | 2 | 15 | 13 |
| Engineering and Computer Sciences | 12 | 14 | 0 |
| Mathematics and Sciences | 5 | 3 | 1 |
| Social Sciences | 11 | 5 | 0 |
| Arts & Humanities | 8 | 10 | 0 |
| Life Sciences | 5 | 2 | 1 |
| Food/Entertainment | 2 | 0 | 0 |
| Totals | 45 | 49 | 15 |

## The University of California

During the reporting period, Commission staff reviewed nine proposals for new UC campus graduate programs, and four proposals for new joint doctoral programs with the California State University. Two of the nine proposals involved program reconstitution. As shown in Display 5, the health sciences and the biological sciences accounted for just over half of the new graduate programs, while the remaining reviews were related to program expansion in the humanities and social sciences.

*DISPLAY 5 New Graduate Programs of the University of California Reviewed by the Commission, Year 2004-05*

| Discipline Area | Program Title | Degree Level | PCT |
|---|---|---|---|
| Health Science | Health Economics<br>Clinical Research<br>*School of Medicine Reconstitution--UCD* | Ph.D.<br>M.A.S<br>M.D. | 33.3 |

Display 5 continues on next page.

| | | | |
|---|---|---|---|
| Biological Science | *Biological Science Reconstitution-- UCD*<br>Animal Biology | M.A./ Ph.D.<br><br>Ph.D. | 22.2 |
| Humanities | Media Arts Technology<br>Culture and Theory | Ph.D.<br>Ph.D. | 22.2 |
| Social Science | Graduate School of the Environment UCD | M A. / Ph.D. | 22.2 |

Of note is that the UC Davis campus accounted for nearly 50% of new UC program activity, including two of four joint doctoral programs. Several of the UCD proposals are reflective of a campus increasing its prominence and social value. For example, the biological sciences programs have evolved quite significantly since 1922, when UC Davis, then referred to as the University Farm, began teaching its first students. As the campus grew, so did basic biology programs, first in the College of Agriculture, and later in the College of Letters and Sciences. In 1970, a Division of Biological Sciences was established to coordinate undergraduate instruction in the two colleges. Then, early in the 1990s, the division was reorganized to reflect modern themes in emerging sub-fields, including microbiology, molecular biology, cellular biology, neurobiology, and plant biology. Last year, the Commission concurred with the recommendation to reconstitute the UC Davis Division of Biological Sciences as the College of Biological Sciences in order to support more effectively the future direction of the discipline.

Another example of the increasing prominence of the Davis campus is reflected in this year's proposal for a Master of Advanced Study (M.A.S.) program in clinical research. The M.A.S. program is intended to serve specific groups of working professionals that have well-defined needs for advanced degree work. The UCD clinical research program will award an M.A.S. and is intended to respond to a need for highly trained researchers to capitalize on developments and discoveries in basic biomedical science and to translate them into clinically useful therapies.

The program will emphasize specific fields within the research areas of cancer, neuroscience, vascular, and infectious disease. Mandatory coursework will include graduate instruction in biostatistics, epidemiology, patient-oriented research, health services research, data management/infomatics, scientific communication, research management, and career development.

## Long Range Plans of the University of California

California, like most high-technology states, relies to a great extent on research and innovation to drive economic success, prosperity, and global competitiveness. Research and innovation are also the hallmark of graduate-level training. In that regard, University long-range plans anticipate new graduate programs in engineering and computer science and, to a lesser extent, the life sciences, to meet growing needs in the pharmaceutical and biotechnology industries. Given that California's high-tech economy also spurs workforce demand in non-science areas, the University anticipates some program expansion in the social sciences, humanities, and selected professional areas to meet emerging social and business needs of California and the nation.

Display 6 reveals that 168 UC graduate programs are being proposed through year 2010. The majority of those programs are in the early planning stage, which will allow Commission staff sufficient time to provide preliminary comments and suggestions. Of the total programs planned, 42 are in the engineering and computer science fields. The Berkeley, San Diego, Santa Cruz, and Irvine campuses are anticipated to account for the greatest number of new programs in those fields.

*DISPLAY 6 University of California Graduate Programs Planned through 2010 by Discipline Area and Degree Level*

| Discipline Area | Degree Level | | |
|---|---|---|---|
| | Masters | Doctorate | Masters/ Doctorate |
| Engineering and Computer Sciences | 15 | 2 | 25 |
| Medical and Health Sciences | 7 | 15 | 6 |
| Interdisciplinary Studies | 7 | 11 | 5 |
| Arts and Humanities | 12 | 6 | 4 |
| Professional Programs | 11 | 6 | 4 |
| Physical Sciences and Mathematics | 4 | 4 | 12 |
| Social Sciences | 3 | 7 | 2 |
| Totals | 59 | 51 | 58 |

Proposed new programs at UC Berkeley include:

- Bioengineering
- Communications and Networking
- Internet-based Design/Manufacturing & Commerce
- Management of Technology & Entrepreneurship
- Microelectromechanical Systems

Proposed programs in engineering and computer science at UC San Diego include:

- Mechanical and Aerospace Engineering
- Computational Sciences
- Structural Engineering
- Architecture-based Enterprise Systems Engineering

The San Francisco and San Diego campuses are expected to add the greatest number of graduate programs in the Medical and Health Sciences. The UC San Francisco proposed programs include:

- Developmental Biology
- Global Health Sciences
- Health Psychology and Behavior Neurosciences (w/UCB)
- Epidemiology (w/UCB)

The San Diego campus is proposing medical and health programs in:

- Clinical Psychology (w/San Diego State)
- Health Law
- Pharmacy
- Public Health

The Merced campus is proposing math and science programs in:

- Biological Sciences
- Engineering and Computer Sciences
- Medical and Health Sciences
- Physical Sciences

The majority of the programs in the professional program area are being planned at the master's level. Generally, the State receives more immediate benefit from master-level programs because its graduates enter the workforce sooner than students pursuing doctoral studies. Nine proposed programs are in education, several of which will be administered jointly with the State University, and five new programs are in business. Several campuses also are considering programs in environmental planning. Appendix D contains a complete list of UC graduate programs proposed between 2005 and 2010.

## Joint Doctorates

During the reporting period the Commission concurred with recommendations to establish four new joint doctoral programs. They are shown below by region. A recent agreement between the Commission and the four-year public higher education systems has resulted in more useful proposals that include greater information on regional need and program intent. For a discussion of issues pertaining to Joint Doctoral Programs in Educational Leadership, please refer to the section of this report called *Major Program Review Issues and Policy Implications*.

Sacramento Area: A Joint Ed.D. in Educational Leadership that involves UC Davis, CSU Sacramento, and Sonoma State University. The program is directed towards K-12 and community college administrators. It will emphasize (a) visionary leadership and management, (b) policy in practice, (c) data for decision-making, and (d) building a community in a diverse society.

Central Valley: A Joint Ph.D. in Criminal Justice involving UC Davis and Fresno State University. At present, there are no programs or departments in the UC or the CSU system that offer a doctoral degree in criminal justice science. This doctorate is intended to provide needed educational opportunities and resources for practitioners of all branches of Forensics Science.

South San Francisco Bay Area/Central Coast: A Joint Ed.D. in Educational Leadership that involves UC Santa Cruz, CSU Monterey Bay, and San Jose State University. The program is directed specifically towards the needs of K-12 administrators that are employed in the culturally and linguistically diverse schools in Monterey, San Benito, Santa Clara, and Santa Cruz counties.

San Francisco Peninsula: A Doctor of Physical Therapy that will be offered jointly by UC San Francisco and San Francisco State University. The program responds in part to concerns raised by the Physical Therapy Accreditation Commission of the American Physical Therapy Association. The association has called for more in-depth education of physical therapists to better prepare them for autonomous and independent practice.

# Appendix A Commission's Program Review Guidelines

The California Postsecondary Education Commission is responsible statutorily for reviewing and commenting on the need for new degree and certificate programs proposed by the public higher education systems. The review process is intended to:

(1) Safeguard the state against inefficiencies in the allocation of program resources

(2) Help ensure that new programs will meet student and societal needs

(3) Ensure that programs are well conceived and that they will have desired educational and social consequences

Recent enhancements to the Commission's review process include greater emphasis placed on the long-range plans of the systems so that staff can consider prospective programs five years in advance of implementation. This has enabled the Commission to alert the systems of potential planning concerns early in the review process before formal proposals are submitted.

As defined in statute, the Commission's role in the review process is mostly advisory. However, in the case of Joint Doctoral Programs involving public and private institutions, the Commission has approval authority. The Commission's review process is guided by the following seven criteria.

1. Student Demand

Within reasonable limits, students should have the opportunity to enroll in programs of study in which they are interested and for which they are qualified. Therefore, student demand for programs, indicated primarily by current and projected enrollments, is an important consideration in determining the need for a program.

2. Societal Needs

Postsecondary education institutions bear a responsibility to fulfill societal needs for trained manpower and for an informed citizenry. Even though projecting manpower needs is far from an exact science, such projections are necessary because they serve as one indication of the need for an existing or proposed program. As a general rule, employment prospects constitute a more important consideration for programs oriented toward specialized occupational fields. Further, the local employment market tends to dictate more the need for specific certificate and associate degree programs. Although achieving and maintaining a perfect balance between manpower supply and demand in any given career field is nearly impossible, it is important nevertheless that the number of persons trained in a field and the number of job openings remain in reasonable balance.

3. Appropriateness to Institutional and Segmental Mission

Programs offered by public institution within a given system must comply with the delineation of function for that system, as set forth in the California Master Plan. Proposed new programs must also be consistent with the institution's own statement of mission and must be approved by the system's statewide governing body.

4. The Number of Existing and Proposed Programs in the Field

An inventory of existing and proposed programs, compiled by the Commission staff from the plans of all systems of postsecondary education, provides the initial indication of apparent duplication or undue proliferation of programs, both within and among the systems. However, the number of programs alone cannot be regarded as an indication of unnecessary duplication. This is because (a) programs with similar titles may have varying course objectives or content, (b) there may be a demonstrated need for the program in a particular region of the state, or (c) the program may be needed for an institution to achieve academic comparability within a given system.

5. Total Costs of the Program

The relative costs of a program, when compared with other programs in the same or different program areas, constitute another criterion in the program review process. Included in the consideration of costs are the number of new faculty required and the student/faculty ratios, as well as costs associated with equipment, library resources, and facilities necessary to deliver the program. For a new program, it is necessary to know the source of the funds required for its support, both initially and in the long run.

6. The Maintenance and Improvement of Quality

Protecting the public interest and trust requires that educational programs at all levels be high quality. Although the primary responsibility for the quality of programs rests with the institution and its system, the Commission, for its part, considers pertinent information to verify that high standards have been established for the operation and evaluation of the program. In the process, it is necessary to recognize that a proper emphasis on quality may require more than a minimal expenditure of resources.

7. The Advancement of Knowledge

The program review process encourages the growth and development of intellectual and creative scholarship. When the advancement of knowledge seems to require the continuation of existing programs or the establishment of programs in new disciplines or in new combinations of existing disciplines, such considerations as costs, student demand, or employment opportunities may become secondary.

# Appendix B Proposed State University Degree Programs

**BAKERSFIELD**

| | | |
|---|---|---|
| 2007 | MA | Economics |
| | MS | Biology |
| | MS | Computer Science |
| | EdD | Educational Leadership (with UC) |
| 2009 | BS | Computer Engineering |
| | BS | Electrical Engineering |
| | BS | Engineering |

**CHANNEL ISLANDS**

| | | |
|---|---|---|
| 2005 | BA | Chemistry |
| | BA | Economics |
| | **BA** | **Sociology*** |
| | **BA** | **Spanish*** |
| | BS | Chemistry |
| | **BS** | **Information Technology*** |
| | **MS** | **Computer Science*** |
| | **MS** | **Mathematics*** |
| 2006 | **BA** | **Performing Arts*** |
| | **BA** | **Political Science*** |
| | **MA** | **English*** |
| 2007 | BA | Anthropology |
| | **BA** | **Applied Physics*** |
| | **BA** | **Chicano Studies*** |
| | **BA** | **Early Childhood Studies*** |
| | **BS** | **Applied Physics*** |

**CHICO**

| | | |
|---|---|---|
| 2005 | MS | Mathematics Education |

**DOMINGUEZ HILLS**

| | | |
|---|---|---|
| 2005 | MOT | Occupational Therapy |
| | EdD | Leadership for Education (with UC Riverside and other CSU campuses) |
| 2006 | **BS** | **Sports, Entertainment, and Hospitality Management*** |
| | **MA** | **Communication Disorders*** |
| | MS | Computer Science |
| | MSW | Social Work |
| 2007 | **BA** | **Child and Adolescent Development*** |
| | **BS** | **Exercise Science*** |
| | MPH | Public Health |
| 2009 | **MS** | **Exercise Science*** |

**EAST BAY**

| | | |
|---|---|---|
| 2005 | **BA** | **Physics*** |
| | **MS** | **Engineering Management*** |

**FRESNO**

| | | |
|---|---|---|
| 2005 | **MA** | **Teaching*** |
| | **MS** | **Forensic Science*** |
| | PhD | Criminal Justice Sciences (with UC Davis) |
| 2006 | **DPT** | **Physical Therapy*** |

**FULLERTON**

None

**HUMBOLDT**

None

**LONG BEACH**

| | | |
|---|---|---|
| 2005 | **BS** | **Computer Engineering Techonology*** |
| | EdD | Leadership for Education (with UC Riverside and other CSU campuses) |

**LOS ANGELES**

| | | |
|---|---|---|
| 2005 | **BA** | **Urban Learning*** |
| | MFA | Film, Television, and Theatre |
| | MS | Technology |

***Newly proposed for Trustees "planning authorization." Implementation subject to approval by the Chancellor.**

| | | |
|---|---|---|
| | EdD | Leadership for Education (with UC Riverside and other CSU campuses) |
| 2006 | BS | Exercise Science |
| | BS | Food Science and Technology |
| | BS | Forensic Science |
| 2008 | MS | Environmental Science |

**MARITIME ACADEMY**

None

**MONTEREY BAY**

| | | |
|---|---|---|
| 2005 | **BS** | **Human Performance and Wellness*** |
| | MBA | Business Administration |
| | MS | Earth Systems Science and Policy |
| | EdD | Collaborative Leadership for Teaching and Learning (with UC Santa Cruz, San José State) |
| 2006 | **BA** | **Human Development*** |
| | **BS** | **Biological Sciences*** |
| | **MA** | **Teaching*** |
| | **MS** | **Nursing*** |
| 2007 | **MA** | **Critical and Applied Multicultural Studies*** |
| | MS | Computer Science and Information Technology |
| 2008 | **MA** | **Practical and Professional Ethics*** |

**NORTHRIDGE**

| | | |
|---|---|---|
| 2005 | **BA** | **Modern Jewish Studies*** (with other CSU campuses) |
| | **MA** | **Information and Knowledge Management*** |
| | **MA** | **Information and Library Management*** |
| | **MA** | **Screenwriting*** |
| | **MS** | **Biochemistry*** |
| | MS | Materials Engineering |
| | MS | Mechanical Engineering |
| 2006 | MS | Computer Engineering |
| | MS | Manufacturing Systems Engineering |
| | MS | Software Engineering |
| | MS | Structural Engineering |

**POMONA**

| | | |
|---|---|---|
| 2005 | MA | Psychology |
| 2006 | MS | Accountancy |

**SACRAMENTO**

| | | |
|---|---|---|
| 2005 | **MA** | **School Psychology*** |
| | **EdS** | **School Psychology*** |
| | MS | Health Care Administration |

**SAN BERNARDINO**

| | | |
|---|---|---|
| 2005 | BS | Computer Engineering |
| | BS | Information Systems and Technology |
| | MA | Child Development |
| | MA | Music |
| | MA | Theatre Arts |
| | MPH | Public Health |
| | MS | Accountancy |
| | EdD | Leadership for Education (with UC Riverside and other CSU campuses) |
| | PhD | Psychology (with Loma Linda University) |
| 2006 | BS | Civil Engineering |
| | BS | Electrical Engineering |
| | BS | Mechanical Engineering |
| | MS | Special Education |
| 2007 | MS | Kinesiology |

**SAN DIEGO**

| | | |
|---|---|---|
| 2005 | MA | Chicana and Chicano Transborder Studies |
| | **EdS** | **School Psychology*** |
| 2006 | BS | Construction Engineering |
| | PhD | Communication (with Fielding Graduate Institute) |
| | PhD | Evolutionary Biology (with UC Berkeley) |
| | PhD | Social Work (with USC) |
| 2007 | PhD | Earth Sciences (Geophysics) (with UC San Diego) |
| 2008 | EdD | Special Education (with UC San Diego) |
| | PhD | Hearing Science (with UC San Diego) |

***Newly proposed for Trustees "planning authorization." Implementation subject to approval by the Chancellor.**

**SAN FRANCISCO**

None

**SAN JOSE**

| | | |
|---|---|---|
| 2005 | EdD | Collaborative Leadership for Teaching and Learning (with UC Santa Cruz, CSU Monterey Bay) |
| 2006 | BA | Foreign Language and International Economics |
| | BS | Psychology |
| | MA | Applied Anthropology |
| | **PhD** | **Occupational Therapy*** |

**SAN LUIS OBISPO**

| | | |
|---|---|---|
| 2005 | **BS** | **Biomedical Engineering*** |

**SAN MARCOS**

| | | |
|---|---|---|
| 2005 | BA | Mass Communication |
| | BS | Biotechnology |
| 2006 | **BA** | **Border and Regional Studies*** |
| | **BS** | **Nursing*** |
| | **MA** | **History*** |
| | MS | Chemistry |
| 2007 | **BA** | **Anthropology*** |
| | **BA** | **Applied Physics*** |
| | MPA | Public Administration |

**SONOMA**

None

**STANISLAUS**

| | | |
|---|---|---|
| 2006 | **BA** | **Digital Design*** |

***Newly proposed for Trustees "planning authorization." Implementation subject to approval by the Chancellor.**

# Appendix C Proposed State University Joint Doctoral Programs

| Program Title | Partnering Institutions | Degree Level | | |
|---|---|---|---|---|
| | | Ed.D | Ph.D. | Other Doctorate |
| Educational Leadership | CSU Bakersfield and UC | X | | |
| Leadership for Education | CSU Dominguez Hills, CSU Long Beach, CSU Los Angeles, CSU San Bernardino, UC Riverside | X | | |
| Physical Therapy | Fresno State University* | | | X |
| School Psychology | Sacramento State University* | | | X |
| School Psychology | San Diego State University* | | | X |
| Psychology | CSU San Bernardino, Loma Linda University | | X | |
| Evolutionary Biology | CSU San Diego, UC Berkeley | | X | |
| Communication | CSU San Diego, Fielding Grad. Institute | | X | |
| Hearing Science | CSU San Diego, UC San Diego | | X | |
| Earth Science/Geophysics | CSU San Diego, USC | | X | |
| Special Education | CSU San Diego, UC San Diego | | X | |
| Occupational Therapy | San Jose State University* | | X | |

* Partnering institutions have not been determined

# Appendix D Proposed University of California Degree Programs

***Arts and Humanities***

| Campus | Proposed Program | Degree | Status |
|---|---|---|---|
| Proposals added for the 2005 update are shown in **BOLD** | | | |
| DAVIS | **Design** | **M.F.A.&M.S.** | **2** |
| IRVINE | International Studies | M.A. | 2 |
| | Music | M.M. | 1 |
| | Music | M.F.A. | discontinuance planned |
| LOS ANGELES | Design Media Studies | Ph.D. | 1 |
| MERCED | World Cultures | M.A./Ph.D. | 2006-07 |
| RIVERSIDE | | | |
| | Digital Arts | Ph.D. | 2 |
| | Linguistics | Ph.D. | 2 |
| | Media & Performance Studies | M.A./Ph.D. | 2 |
| SAN DIEGO | Theatre: specialization in Theatre Technology and Production | M.F.A. | 2 |
| | Visual Arts (specialization in Art Practice) | Ph.D. | 1 |
| | Visual Arts (specialization in Public Culture) | M.F.A., Ph.D. | 1 |
| | Writing | M.F.A. | 3 |
| SANTA BARBARA | Applied Linguistics | M.A. | 2 |
| | Art | M.A. | 2 |
| | Dance | M.F.A. | 2 |
| | Media Arts & Technology | M.F.A./Ph.D. | 4 |
| | Writing for Performance | M.F.A. | 1 |
| SANTA CRUZ | Comparative U.S. Studies | Ph.D. | 1 |
| | Performance Practice | M.F.A. | 2 |
| | Visual Art | M.F.A. | 2 |
| | Visual Culture | Ph.D. | 1 |

Status of proposal: 1suggested for 5-year list; 2 undergoing department review; 3 undergoing campus review; 4 undergoing CCGA/CPEC review

## *Biological Sciences*

| Campus | Proposed Program | Degree | Status |
|---|---|---|---|
| Proposals added for the 2005 update are shown in **BOLD** | | | |
| DAVIS | Ecology (joint graduate group w/ CSU Chico) | Joint Ph.D. | 3 |
| | Horticulture and Agronomy | Ph.D. | 1 |
| MERCED | Chemical Sciences | M.S./Ph.D. | 2006-07 |
| | Quantitative Systems Biology | M.S./Ph.D. | 2005-06 |
| SAN DIEGO | Biotechnology | M.S. | 2 |
| | Chemistry/Biochemistry | M.S. | 1 |
| SAN FRANCISCO | Developmental Biology | Ph.D. | 3 |
| SANTA BARBARA | Biotechnology and Pharmacology (see Medical & Health Sciences) | M.S. (integrated w/BS) | 1 |
| SANTA CRUZ | Biomolecular Engineering (see Engineering) | M.S./Ph.D. | 1 |

Status of proposal: 1suggested for 5-year list; 2 undergoing department review; 3 undergoing campus review; 4 undergoing CCGA/CPEC review

***Engineering and Computer Sciences***

| Campus | Proposed Program | Degree | Status |
|---|---|---|---|
| Proposals added for the 2005 update are shown in **BOLD** | | | |
| BERKELEY | Bioengineering | M.Bioengr. D.Bioengr. | 1 |
| | Bioengineering (w/ UCSF) | M.Bioengr. D.Bioengr. | 1 |
| | Communications & Networking | M.Engr. | 1 |
| | Internet Based Design, Manufacturing & Commerce | M.Engr. | 1 |
| | Management of Technology | M.Engr. | 2 |
| | Microelectromechanical Systems. | M.Engr. | 1 |
| | Ocean Engineering | M.Engr. | discontinuance planned |
| DAVIS | **Chemical Engineering Jt Program w/ Middle East Technical University, Turkey** | **Jt. Ph.D.** | **2** |
| IRVINE | Computer Science | M.S./Ph.D. | 1 |
| | Computer Science & Engineering | M.S./Ph.D. | 1 |
| | Engineering Design Software | M.S./Ph.D. | 2 |
| | Environmental Engineering | M.S./Ph.D. | 1 |
| | Informatics | M.S./Ph.D. | 2 |
| LOS ANGELES | Engineering | M.S. | 2 |
| MERCED | Bioengineering | M.S./Ph.D. | 2006-07 |
| | Chemical Engineering | M.S./Ph.D. | 2009-10 |
| | Civil Engineering | M.S./Ph.D. | 2010-11 |
| | Computer & Information Systems | M.S./Ph.D. | 2006-07 |
| | Electrical Engineering | M.S./Ph.D. | 2007-08 |
| | Materials Science Engineering | M.S./Ph.D. | 2006-07 |
| | Mechanical Engineering | M.S./Ph.D. | 2006-07 |
| | Molecular Science & Engineering | M.S./Ph.D. | 2005-06 |
| RIVERSIDE | Bioengineering | M.S./Ph.D. | 2 |
| | Engineering Management | M.A.S. | 1 |
| | Engineering Management | M.S. | 1 |
| SAN DIEGO | **Architecture-based Enterprise Systems Engineering** | **M.S.** | **1** |
| | Computational Sciences | M.S./Ph.D. | 2 |
| | Computer Science & Engineering | M.Eng. | 1 |
| | Engineering - additional specializations | M.Eng. | 1 |
| | Information Technology Innovation | M.Eng., Ph.D. | 1 |
| | Mechanical & Aerospace Engineering | M.Eng. | 3 |
| | **Structural Engineering** concentration in structural health monitoring | **M.S.** | **1** |
| SAN FRANCISCO | Bioengineering (w/ UCB) | M.S./D. of Bioengr | 1 |
| SANTA BARBARA | Bioengineering & Bio-Physical Science | M.S./Ph.D. | 2 |
| | **Materials (jt. w/ Ecole Polytechnique, France)** | **Ph.D.** | **2** |
| | Technology Management & Commercialization | M.S. | 2 |
| SANTA CRUZ | **Autonomous Systems** | **M.S./Ph.D.** | **2** |
| | Biomolecular Engineering (see Biological Sciences) | M.S./Ph.D. | 1 |
| | Engineering Management | M.S./Ph.D. | 1 |
| | Information Systems & Technology Management | M.S./Ph.D. | 1 |
| | Software Engineering | M.S./Ph.D. | 1 |
| | Web & Internet Engineering | M.A.S | 1 |

Status of proposal: 1suggested for 5-year list; 2 undergoing department review; 3 undergoing campus review; 4 undergoing CCGA/CPEC review

## *Interdisciplinary Studies*

| Campus | Proposed Program | Degree | Status |
|---|---|---|---|
| Proposals added for the 2005 update are shown in **BOLD** | | | |
| BERKELEY | **Public Health/Journalism** | **M.P.H./M.J.** | **1** |
| | Women's Studies | Ph.D. | 1 |
| IRVINE | **African American Studies** | **M.A.** | **2** |
| | Criminology, Law & Society | Ph.D. | 2 |
| | Theory & Culture (interdisciplinary school-wide program) | Ph.D. | 4 |
| LOS ANGELES | Chicana/Chicano Studies | M.A./Ph.D. | 2 |
| | Communication Studies | Ph.D. | 2 |
| | Education/Management (concurrent degree program) | M.A./M.B.A. | 2 |
| MERCED | World Cultures | M.A./Ph.D. | 2006-07 |
| RIVERSIDE | Ethnic Studies | M.A. | 2 |
| | Southeast Asian Studies | M.A. | 2 |
| | Women's Studies | M.A. | 2 |
| SAN DIEGO | **Critical Gender Studies** | **Ph.D.** | **1** |
| | International Affairs | M.A. | 2 |
| SANTA BARBARA | Asian American Studies | M.A./Ph.D. | 2 |
| | Black Studies | M.A./Ph.D. | 2 |
| | **Communicative Practices in Community Contexts** (w/ San Diego State) | **Jt. Ph.D.** | **1** |
| | East Asian Languages & Cultural Studies | Ph.D. | 2 |
| | Media Arts & Technology | M.F.A./Ph.D. | 4 |
| | Women's Studies | Ph.D. | 2 |
| SANTA CRUZ | Feminist Studies | Ph.D. | 1 |
| | **Latin American & Latino Studies** | **Ph.D.** | **2** |
| | Visual Culture | Ph.D. | 1 |

Status of proposal: 1suggested for 5-year list; 2 undergoing department review; 3 undergoing campus review; 4 undergoing CCGA/CPEC review

## *Medical and Health Sciences*

| Campus | Proposed Program | Degree | Status |
|---|---|---|---|
| Proposals added for the 2005 update are shown in **BOLD** | | | |
| BERKELEY | **Epidemiology (joint with UCSF)** | **Ph.D.** | **1** |
| | **Public Health/Nursing** [concurrent with UCSF] | **M.P.H./M.S.** | **2** |
| DAVIS | **Health Informatics** | **Ph.D.** | **2** |
| | Nursing (non-Clinical) w/ UCSF | Ph.D. | 2 |
| IRVINE | Cognitive Neuroscience | Ph.D. | 2 |
| | **Nursing Science** | **M.S.** | **2** |
| | **Nursing Science** | **Ph.D.** | **2** |
| | **Nursing Practice, Doctor of** | **D.N.P.** | **2** |
| | **Pharmaceutical Sciences** | **M.S./Ph.D.** | **2** |
| | **Public Health** | **M.S.P.H., Ph.D.** | **1** |
| LOS ANGELES | Medical Informatics | M.S./Ph.D. | 1 |
| MERCED | Human Biology | M.A./Ph.D. | 2006-07 |
| SAN DIEGO | Clinical Psychology (w/ San Diego State U) | MA. | 2 |
| | **Computational Neurobiology** | **M.S.** | **3** |
| | Health Law (w/ UC Extension & Case Western School of Law) | M.A.S. | 3 |
| | Human Development | Ph.D. | 3 |
| | Medical Physics | M.S./Ph.D. | 1 |
| | Pharmacy | D. Pharm. | 1 |
| | Public Health concentration in Health Behavior (w/ San Diego State) | Ph.D. | 3 |
| SAN FRANCISCO | Dental Hygiene | M.S. | 2 |
| | Developmental Biology | Ph.D. | 3 |
| | **Epidemiology** (w/ UCB) | **Ph.D.** | **2** |
| | Global Health Sciences | M.S./Ph.D. | 2 |
| | **Health Policy Research -- Trans-disciplinary** | **Ph.D.** | **1** |
| | Health Psychology and Behavior Neurosciences (w/ UCB) | Ph.D. | 1 |
| | Nursing (non-Clinical) w/ UCD | Ph.D. | 1 |
| | **Physical Therapy** (w/ CSU Fresno) | **Jt. D.P.T.** | **1** |
| SANTA BARBARA | Biotechnology and Pharmacology | M.S. (integrated w/BS) | 1 |

Status of proposal: 1suggested for 5-year list; 2 undergoing department review; 3 undergoing campus review; 4 undergoing CCGA/CPEC review

## *Physical Sciences and Mathematics*

| Campus | Proposed Program | Degree | Status |
|---|---|---|---|
| Proposals added for the 2005 update are shown in **BOLD** | | | |
| DAVIS | **Ecology (formerly Plant Ecology)** w/ CSU Chico | **Jt. Ph.D.** | **3** |
| | **Environmental Policy and Management** | **M.S.** | **2** |
| | **Horticulture and Agronomy** | **Ph.D.** | **2** |
| | Landscape Architecture | Ph.D. | 2 |
| IRVINE | Statistics | M.S./Ph.D. | 1 |
| LOS ANGELES | Geographical Information Systems | M.S.G.I.S. | 2 |
| MERCED | Environmental Systems | M.S./Ph.D. | 2005-06 |
| | Mathematical Sciences | M.S./Ph.D. | 2006-07 |
| | Molecular Science & Engineering | M.S./Ph.D. | 2005-06 |
| | Physics | M.S./Ph.D. | 2006-07 |
| RIVERSIDE | **Astrophysics** | **M.S./Ph.D.** | **1** |
| | **Integrative Ecology** | **M.S./Ph.D.** | **1** |
| SAN DIEGO | Earth Sciences: Geophysics (w/ San Diego State University) | Ph.D. | 1 |
| SANTA BARBARA | Earth Surface Sciences | M.S./Ph.D. | 2 |
| | Environmental Science & Management | M.E.S.M. | 1 |
| | Environmental Studies | M.A./Ph.D. | 1 |
| | Geophysics | M.S./Ph.D. | 1 |
| | Marine Science (Interdepartmental program) | M.A. | 2 |
| SANTA CRUZ | Applied Mathematics & Statistics | M.S./Ph.D. | 1 |
| | Coastal & Marine Policy | M.S./Ph.D. | 1 |

Status of proposal: 1suggested for 5-year list; 2 undergoing department review; 3 undergoing campus review; 4 undergoing CCGA/CPEC review

## *Professional Programs*

| Campus | Proposed Program | Degree | Status |
|---|---|---|---|
| Proposals added for the 2005 update are shown in **BOLD** | | | |
| BERKELEY | Environmental Science & Management | M.E.S.M. | 1 |
| | Product Development | Ph.D. | 2 |
| | **Public Health/Journalism** | **M.P.H./M.J.** | **1** |
| DAVIS | Criminal Justice (w/ CSU campuses) | Jt. Ph.D. | 4 |
| | Clinical Research | M.A.S. | 4 |
| | **Environmental Policy and Management** | **M.S.** | **2** |
| IRVINE | Education | Ph.D. | 3 |
| | Public Policy | M.P.P. | 1 |
| LOS ANGELES | Education/Management (concurrent degree program) | M.A./M.B.A. | 2 |
| | **Public Administration (school-wide)** | **E.M.P.A.** | **1** |
| MERCED | Engineering Economics & Management | M.S./Ph.D. | 2008-09 |
| RIVERSIDE | **Accounting (AGSM)** | **M.S.** | **1** |
| | Dispute Resolution and Negotiation | M.A.S | 1 |
| | Educational Leadership (w/ several CSU campuses) | Ed.D. | 2 |
| | Executive Master of Business Administration | Executive M.B.A. | 1 |
| | Family and Child Studies | M.A.S. | 2 |
| | Management | M.S./Ph.D. | 2 |
| | Public Policy | M.A./Ph.D. | 2 |
| SAN DIEGO | Clinical Psychology (w/ San Diego State University) | M.A. | 2 |
| | Health Law w/ UC Extension & Case Western School of Law | M.A.S | 2 |
| | Management/Business Education | M.B.A./Ph.D. | 3 |
| | Special Education w/ San Diego State | Ed.D. | 2 |
| SANTA BARBARA | Mathematics and Empirical Finance | M.S. | 2 |
| | Technology management & Commercialization | M.S. | 2 |
| SANTA CRUZ | Education | M.A.S | 1 |
| | Education (w/ San Jose State University & CSU Monterey Bay) | Ed.D. | 4 |
| | Web & Internet Engineering | M.A.S | 1 |

Status of proposal: 1suggested for 5-year list; 2 undergoing department review; 3 undergoing campus review; 4 undergoing CCGA/CPEC review

## *Social Sciences*

| Campus | Proposed Program | Degree | Status |
|---|---|---|---|
| Proposals added for the 2005 update are shown in **BOLD** | | | |
| DAVIS | Community Development | Ph.D. | 2 |
| | Communication | Ph.D. | 1 |
| IRVINE | Criminology, Law & Society | Ph.D. | 1 |
| LOS ANGELES | Communication Studies | Ph.D. | 2 |
| MERCED | Public Policy | M.A./Ph.D. | 2006-07 |
| | Social & Cognitive Science | M.S./Ph.D. | 2005-06 |
| SAN DIEGO | Clinical Psychology (w/ San Diego State University) | M.A. | 2 |
| | Human Development | Ph.D. | 3 |
| | International Affairs | M.A. | 2 |
| SANTA BARBARA | **Communicative Practices in Community Contexts** w/ San Diego State | Jt. Ph.D. | 2 |
| SANTA CRUZ | Comparative U.S. Studies | Ph.D. | 1 |
| | Social Policy & Public Advocacy | M.A. | 1 |

Status of proposal: 1suggested for 5-year list; 2 undergoing department review; 3 undergoing campus review; 4 undergoing CCGA/CPEC review